WHAT IS CLAIMED IS:

1. An isolated and purified DNA molecule which encodes a bradykinin B_1 receptor or a functional derivative thereof.

2. The isolated and purified DNA molecule of claim 1, having a nucleotide sequence:

CAGAGAAAACTCCTCCAAAAGCAGCTCTCACTATCAGAAAACCCAACTAC
AGTTGTGAACGCCTTCATTTTCTGCCTGAGGTCTCAGTCCGTCGGCCCAG
ACTGAAGTGCAGTGGCACAATCATAGCTCGCTGCAGCCTCGACCTTCCAG
GCTTAAACGATTCTCCCACCTCAGCCTCTCGAGTTGCTGGGACCACAGGT
CACTGTGCATGGCATCATCCTGGCCCCCTCTAGAGCTCCAATCCTCCAAC
CAGAGCCAGCTCTTCCCTCAAAATGCTACGGCCTGTGACAATGCTCCAGA
AGCCTGGGACCTGCTGCACAGAGTGCTGCCGACATTTATCATCTCCATCT
GTTTCTTCGGCCTCCTAGGGAACCTTTTTGTCCTGTTGGTCTTCCTCCTG
CCCCGGCGGCAACTGAACGTGGCAGAAATCTACCTGGCCAACCTGGCAGC
CTCTGATCTGGTGTTTGTCTTGGGCTTGCCCTTCTGGGCAGAGAATATCT
GGAACCAGTTTAACTGGCCTTTCGGAGCCCTCCTCTGCCGTGTCATCAAC
GGGGTCATCAAGGCCAATTTGTTCATCAGCATCTTCCTGGTGGTGGCCAT
CAGCCAGGACCGCTACCGCGTGCTGGTGCACCCTATGGCCAGCGGAAGGC
AGCAGCGGCGGAGGCAGGCCCGGGTCACCTGCGTGCTCATCTGGGTTGTG
GGGGGCCTCTTGAGCATCCCCACATTCCTGCTGCGATCCATCCAAGCCGT
CCCAGATCTGAACATCACCGCCTGCATCCTGCTCCTCCCCCATGAGGCCT
GGCACTTTGCAAGGATTGTGGAGTTAAATATTCTGGGTTTCCTCCTACCA
CTGGCTGCGATCGTCTTCTTCAACTACCACATCCTGGCCTCCCTGCGAAC
GCGGGAGGAGGTCAGCAGGACAAGGTGCGGGGGCCGCAAGGATAGCAAGA
CCACAGCGCTGATCCTCACGCTCGTGGTTGCCTTCCTGGTCTGCTGGGCC
CCTTACCACTTCTTTGCCTTCCTGGAATTCTTATTCCAGGTGCAAGCAGT
CCGAGGCTGCTTTTGGGAGGACTTCATTGACCTGGGCCTGCAATTGGCCA
ACTTCTTTGCCTTCACTAACAGCTCCCTGAATCCAGTAATTTATGTCTTT
GTGGGCCGGCTCTTCAGGACCAAGGTCTGGGAACTTTATAAACAATGCAC
CCCTAAAAGTCTTGCTCCAATATCTTCATCCCATAGGAAAGAAATCTTCC
AACTTTTCTGGCGGAATTAAAACAGCATTGAACCAAGAAAAAAAAAAAAA
AAAAAAA (SEQ.ID.NO.:1) or functional derivatives thereof.

3. The isolated and purified DNA molecule of claim 1, wherein said DNA molecule is genomic DNA.

4. An expression vector for expression of a bradykinin B_1 receptor in a recombinant host, wherein said vector contains a recombinant gene encoding a bradykinin B1 receptor or functional derivaative thereof.

5. The expression vector of claim 4, wherein the expression vector contains a cloned gene encoding the bradykinin B_1 receptor, having a nucleotide sequence:

CAGAGAAAACTCCTCCAAAAGCAGCTCTCACTATCAGAAAACCCAACTAC
AGTTGTGAACGCCTTCATTTTCTGCCTGAGGTCTCAGTCCGTCGGCCCAG
ACTGAAGTGCAGTGGCACAATCATAGCTCGCTGCAGCCTCGACCTTCCAG
GCTTAAACGATTCTCCCACCTCAGCCTCTCGAGTTGCTGGGACCACAGGT
CACTGTGCATGGCATCATCCTGGCCCCCTCTAGAGCTCCAATCCTCCAAC
CAGAGCCAGCTCTTCCCTCAAAATGCTACGGCCTGTGACAATGCTCCAGA
AGCCTGGGACCTGCTGCACAGAGTGCTGCCGACATTTATCATCTCCATCT
GTTTCTTCGGCCTCCTAGGGAACCTTTTTGTCCTGTTGGTCTTCCTCCTG
CCCCGGCGGCAACTGAACGTGGCAGAAATCTACCTGGCCAACCTGGCAGC
CTCTGATCTGGTGTTTGTCTTGGGCTTGCCCTTCTGGGCAGAGAATATCT
GGAACCAGTTTAACTGGCCTTTCGGAGCCCTCCTCTGCCGTGTCATCAAC
GGGGTCATCAAGGCCAATTTGTTCATCAGCATCTTCCTGGTGGTGGCCAT
CAGCCAGGACCGCTACCGCGTGCTGGTGCACCCTATGGCCAGCGGAAGGC
AGCAGCGGCGGAGGCAGGCCCGGGTCACCTGCGTGCTCATCTGGGTTGTG
GGGGGCCTCTTGAGCATCCCCACATTCCTGCTGCGATCCATCCAAGCCGT
CCCAGATCTGAACATCACCGCCTGCATCCTGCTCCTCCCCCATGAGGCCT
GGCACTTTGCAAGGATTGTGGAGTTAAATATTCTGGGTTTCCTCCTACCA
CTGGCTGCGATCGTCTTCTTCAACTACCACATCCTGGCCTCCCTGCGAAC
GCGGGAGGAGGTCAGCAGGACAAGGTGCGGGGGCCGCAAGGATAGCAAGA
CCACAGCGCTGATCCTCACGCTCGTGGTTGCCTTCCTGGTCTGCTGGGCC
CCTTACCACTTCTTTGCCTTCCTGGAATTCTTATTCCAGGTGCAAGCAGT
CCGAGGCTGCTTTTGGGAGGACTTCATTGACCTGGGCCTGCAATTGGCCA
ACTTCTTTGCCTTCACTAACAGCTCCCTGAATCCAGTAATTTATGTCTTT
GTGGGCCGGCTCTTCAGGACCAAGGTCTGGGAACTTTATAAACAATGCAC
CCCTAAAAGTCTTGCTCCAATATCTTCATCCCATAGGAAAGAAATCTTCC

AACTTTTCTGGCGGAATTAAAACAGCATTGAACCAAGAAAAAAAAAAAAA
AAAAAAA (SEQ.ID.NO.:1) or functional derivative thereof.

6. The expression vector of claim 4, wherein the expression vector contains genomic DNA encoding the bradykinin B_1 receptor.

7. A recombinant host cell containing a recombinantly cloned gene encoding a bradykinin B_1 receptor or functional derivative thereof.

8. The recombinant host cell of claim 7, wherein said gene encoding the bradykinin B1 receptor has a nucleotide sequence:
CAGAGAAAACTCCTCCAAAAGCAGCTCTCACTATCAGAAAACCCAACTAC
AGTTGTGAACGCCTTCATTTTCTGCCTGAGGTCTCAGTCCGTCGGCCCAG
ACTGAAGTGCAGTGGCACAATCATAGCTCGCTGCAGCCTCGACCTTCCAG
GCTTAAACGATTCTCCCACCTCAGCCTCTCGAGTTGCTGGGACCACAGGT
CACTGTGCATGGCATCATCCTGGCCCCCTCTAGAGCTCCAATCCTCCAAC
CAGAGCCAGCTCTTCCCTCAAAATGCTACGGCCTGTGACAATGCTCCAGA
AGCCTGGGACCTGCTGCACAGAGTGCTGCCGACATTTATCATCTCCATCT
GTTTCTTCGGCCTCCTAGGGAACCTTTTTGTCCTGTTGGTCTTCCTCCTG
CCCCGGCGGCAACTGAACGTGGCAGAAATCTACCTGGCCAACCTGGCAGC
CTCTGATCTGGTGTTTGTCTTGGGCTTGCCCTTCTGGGCAGAGAATATCT
GGAACCAGTTTAACTGGCCTTTCGGAGCCCTCCTCTGCCGTGTCATCAAC
GGGGTCATCAAGGCCAATTTGTTCATCAGCATCTTCCTGGTGGTGGCCAT
CAGCCAGGACCGCTACCGCGTGCTGGTGCACCCTATGGCCAGCGGAAGGC
AGCAGCGGCGGAGGCAGGCCCGGGTCACCTGCGTGCTCATCTGGGTTGTG
GGGGGCCTCTTGAGCATCCCCACATTCCTGCTGCGATCCATCCAAGCCGT
CCCAGATCTGAACATCACCGCCTGCATCCTGCTCCTCCCCCATGAGGCCT
GGCACTTTGCAAGGATTGTGGAGTTAAATATTCTGGGTTTCCTCCTACCA
CTGGCTGCGATCGTCTTCTTCAACTACCACATCCTGGCCTCCCTGCGAAC
GCGGGAGGAGGTCAGCAGGACAAGGTGCGGGGGCCGCAAGGATAGCAAGA
CCACAGCGCTGATCCTCACGCTCGTGGTTGCCTTCCTGGTCTGCTGGGCC
CCTTACCACTTCTTTGCCTTCCTGGAATTCTTATTCCAGGTGCAAGCAGT
CCGAGGCTGCTTTTGGGAGGACTTCATTGACCTGGGCCTGCAATTGGCCA
ACTTCTTTGCCTTCACTAACAGCTCCCTGAATCCAGTAATTTATGTCTTT

GTGGGCCGGCTCTTCAGGACCAAGGTCTGGGAACTTTATAAACAATGCAC
CCCTAAAAGTCTTGCTCCAATATCTTCATCCCATAGGAAAGAAATCTTCC
AACTTTTCTGGCGGAATTAAAACAGCATTGAACCAAGAAAAAAAAAAAAA
AAAAAAA (SEQ.ID.NO.:1) or functional derivative thereof.

9. The recombinant host cell of claim 7, wherein said cloned gene encoding the bradykinin B_1 receptor is genomic DNA.

10. A protein, in substantially pure form which functions as a bradykinin B_1 receptor.

11. The protein according to claim 10, having an amino acid sequence:

Met Ala Ser Ser Trp Pro Pro Leu Glu Leu Gln Ser Ser Asn
Gln Ser Gln Leu Phe Pro Gln Asn Ala Thr Ala Cys Asp Asn
Ala Pro Glu Ala Trp Asp Leu Leu His Arg Val Leu Pro Thr
Phe Ile Ile Ser Ile Cys Phe Phe Gly Leu Leu Gly Asn Leu
Phe Val Leu Leu Val Phe Leu Leu Pro Arg Arg Gln Leu Asn
Val Ala Glu Ile Tyr Leu Ala Asn Leu Ala Ala Ser Asp Leu
Val Phe Val Leu Gly Leu Pro Phe Trp Ala Glu Asn Ile Trp
Asn Gln Phe Asn Trp Pro Phe Gly Ala Leu Leu Cys Arg Val
Ile Asn Gly Val Ile Lys Ala Asn Leu Phe Ile Ser Ile Phe
Leu Val Val Ala Ile Ser Gln Asp Arg Tyr Arg Val Leu Val
His Pro MET Ala Ser Gly Arg Gln Gln Arg Arg Arg Gln Ala
Arg Val Thr Cys Val Leu Ile Trp Val Val Gly Gly Leu Leu
Ser Ile Pro Thr Phe Leu Leu Arg Ser Ile Gln Ala Val Pro
Asp Leu Asn Ile Thr Ala Cys Ile Leu Leu Leu Pro His Glu
Ala Trp His Phe Ala Arg Ile Val Glu Leu Asn Ile Leu Gly
Phe Leu Leu Pro Leu Ala Ala Ile Val Phe Phe Asn Tyr His
Ile Leu Ala Ser Leu Arg Thr Arg Glu Glu Val Ser Arg Thr
Arg Cys Gly Gly Arg Lys Asp Ser Lys Thr Thr Ala Leu Ile
Leu Thr Leu Val Val Ala Phe Leu Val Cys Trp Ala Pro Tyr
His Phe Phe Ala Phe Leu Glu Phe Leu Phe Gln Val Gln Ala
Val Arg Gly Cys Phe Trp Glu Asp Phe Ile Asp Leu Gly Leu
Gln Leu Ala Asn Phe Phe Ala Phe Thr Asn Ser Ser Leu Asn

Pro Val Ile Tyr Val Phe Val Gly Arg Leu Phe Arg Thr Lys Val Trp Glu Leu Tyr Lys Gln Cys Thr Pro Lys Ser Leu Ala Pro Ile Ser Ser Ser His Arg Lys Glu Ile Phe Gln Leu Phe Trp Arg Asn (SEQ.ID.NO.:2) or functional derivative thereof

12. A monospecific antibody immunologically reactive with a bradykinin B_1 receptor.

13. The antibody of Claim 12, wherein the antibody blocks activity of the bradykinin B_1 receptor.

14. A process for expression of a bradykinin B_1 receptor protein in a recombinant host cell, comprising:

(a) transferring the expression vector of Claim 4 into suitable host cells; and

(b) culturing the host cells of step (a) under conditions which allow expression of the bradykinin B_1 receptor protein from the expression vector.

15. A method of identifying compounds that modulate bradykinin B_1 receptor activity, comprising:

(a) combining a suspected modulator of bradykinin B_1 receptor activity with a bradykinin B_1 receptor; and

(b) measuring an effect of the modulator on the receptor.

16. The method of claim 15, wherein the effect of the modulator on the receptor is inhibiting or enhancing binding of B_1 receptor ligands.

17. The method of claim 15, wherein the effect of the modulator on the receptor is stimulation or inhibition of signal transduction mediated by B_1 receptors.

18. The method of claim 17, wherein the effect of the modulator on the receptor is signal transduction mediated by B_1 receptors, and said signal transduction is selected from the group consisting of phosphatidyl inositol hydrolysis, release of intracellular Ca^{2+} stores, and arachidonic acid release.

19. A compound active in the method of Claim 15, wherein said compound is a modulator of a bradykinin B_1 receptor.

20. A compound active in the method of Claim 15, wherein said compound is an agonist or antagonist of a bradykinin B_1 receptor.

21. A compound active in the method of Claim 15, wherein said compound is a modulator of expression of a bradykinin B_1 receptor.

22. A pharmaceutical composition comprising a compound active in the method of Claim 15, wherein said compound is a modulator of bradykinin B1 receptor activity.

23. A method of treating a patient in need of such treatment for a condition which is mediated by a bradykinin B1 receptor, comprising administration of a bradykinin B1 receptor modulating compound active in the method of Claim 15.

24. A method of treating a patient in need of such treatment for a condition which is mediated by a bradykinin B1 receptor and is characterized by hyperalgesia, acute inflammation or

chronic inflammation, comprising administration of a bradykinin B1 receptor modulating compound active in the method of Claim 15.

25. A method of identifying compounds that modulate bradykinin B_1 receptor activity, comprising:

(a) combining a suspected modulator of bradykinin B_1 receptor activity with a cell expressing a recombinant bradykinin B_1 receptor; and

(b) measuring an effect of the modulator on the receptor.

26. The method of claim 25, wherein the effect of the modulator on the receptor in step (b) is inhibiting or or enhancing binding of B_1 receptor ligands.

27. The method of claim 25, wherein the effect of the modulator on the receptor in step (b) is inhibition or enhancement of signal transduction mediated by B_1 receptors.

28. The method of claim 27, wherein the signal transduction is selected from a group consisting of phosphatidyl inositol hydrolysis, release of intracellular Ca^{2+} stores, and arachidonic acid release.

29. A compound active in the method of Claim 25, wherein said compound is a modulator of a bradykinin B_1 receptor.

30. A compound active in the method of Claim 25, wherein said compound is an agonist or antagonist of a bradykinin B_1 receptor.

31. A compound active in the method of Claim 25, wherein said compound is a modulator of expression of a bradykinin B_1 receptor.

32. A pharmaceutical composition comprising a compound active in the method of Claim 25, wherein said compound is a modulator of bradykinin B1 receptor activity.

33. A method of treating a patient in need of such treatment for a condition which is mediated by a bradykinin B1 receptor, comprising administration of a bradykinin B1 receptor modulating compound active in the method of Claim 25.

34. A method of treating a patient in need of such treatment for a condition which is mediated by a bradykinin B1 receptor and is characterized by hyperalgesia, acute inflammation or chronic inflammation, comprising administration of a bradykinin B1 receptor modulating compound active in the method of Claim 25.